

GENERAL ALIGNMENT INSTRUCTION, INSTRUCTION GENERALE

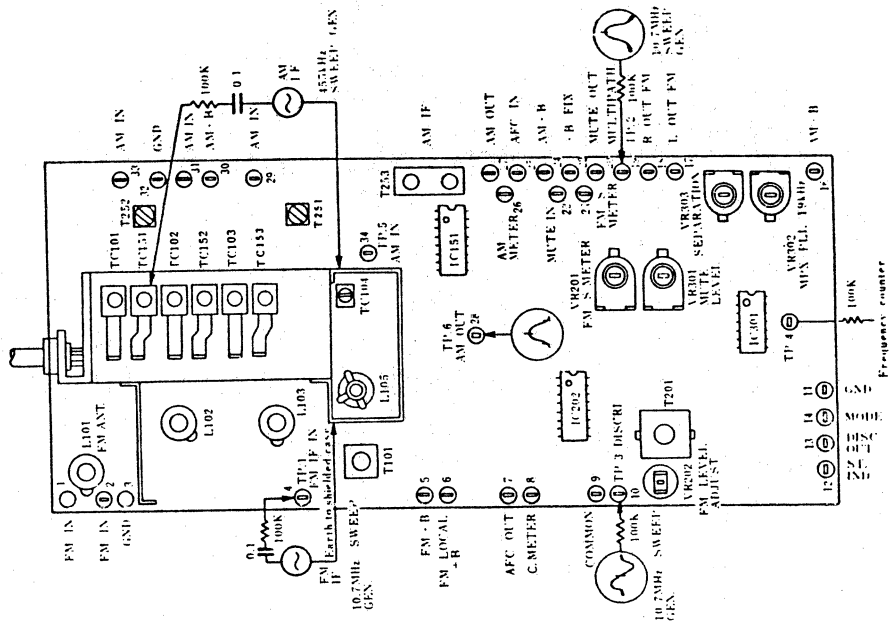


Fig. 18

FM TUNER ALIGNMENT

T conditions

Set to the switch positions on the R 375 as follows.

FUNCTION FM
VOLUME Minimum
POWER ON

Steps		Item	Measuring Instrument	Input Terminal	Output Terminal	Frequency	Adjust	Wave Form
1	(1)	IF Amplifier	10.7MHz $\pm$ 150kHz Sweep Generator	TP 1	TP 2		T101	CAUTION (1)
	(2)	"S" curve		TP 1	TP 3		T201	CAUTION (2)
2	(1)	Covering	2.1 FM signal generator 90MHz 400Hz 100% modulated, 60dB at input AC voltmeter	Antenna terminal	REC OUT(L)	90MHz (Turn the dial pointer at 90MHz)	L105	Output Max.
	(2)		2.2 FM signal generator 106MHz 400Hz 100% modulated, 60dB at input AC voltmeter		SP OUT(L)	106MHz (Turn the dial pointer at 106MHz)	TC104	
	(3)							
3	(1)	Tracking	3.1 FM signal Generator 90MHz 400Hz 100% modulated, 10dB at input AC voltmeter	Antenna terminal	REC OUT(L)	90MHz	L101, L102 L103	Output Max.
	(2)		3.2 FM signal generator 106MHz 400Hz 100% modulated, 10dB at input AC voltmeter		SP OUT(L)	106MHz	TC101, TC102 TC103	
	(3)							

Steps	Item	Measuring Instrument	Input Terminal	Output Terminal	Frequency	Adjust	Wave Form
1	Discriminate	FM signal generator 98MHz 400Hz 100% modulated, 10dB at input AC voltmeter	Antenna terminal	REC OUT(L) or SP OUT(L)	98MHz	T201 (lower)	Cut the input signal level of FM signal generator and set the pointer of tuning meter to the center mark.
	Distortion	FM signal generator 98MHz 400Hz 100% modulated, 60dB at input Distortion meter	Antenna terminal	REC OUT(L) or SP OUT(L)	98MHz	T201 (upper)	Adjust T201 so that distortion will become min. CAUTION (3)
	Output	FM signal generator 98MHz 400Hz 30% modulated, 60dB at input AC voltmeter	Antenna terminal	REC OUT(L)	98MHz	VR202	150mV $\pm$ 1dB
	FM Muting	FM signal generator 98MHz 400Hz 100% modulated, 20dB at input AC voltmeter	Antenna terminal	REC OUT(L) or SP OUT(L)	98MHz	VR301	Adjust VR301 so that the output signal can occur then the input signal is 24 ± 6 dB.
	Signal Meter	FM signal generator 98MHz 400Hz 100% modulated, 10dB at input AC voltmeter	Antenna terminal	Signal Meter	98MHz	VR201	Adjust VR201 so that deviation of the pointer in signal meter will be 4-5.

UTION

- Short-circuit the OSC stage by earthing the live side of the varrialbe capacitor in that stage.
Adjust the core of T101 so that the gain will be max. In this case, reduce the level of the input signal of signal generator so that the waveform will be one shown in Fig. 13.
- Short-circuit the OSC stage as described in Caution 1.
Adjust the primary core (lower) of T201 so that the output is like the S curve shown in Fig. 14 with A and B symmetrical with respect to C.
Adjust the secondary core (upper) so that the straight line of the S curve can be achieved.
At the time of adjustment in Caution 1 and 2, center of the marker will sometimes not correspond to that of the waveform because of the ceramic filters used.
- As the result of the adjustment step 5, the best point of adjustment from step 4 will be shifted a bit. Repeat the adjustment of step 4 and 5 until the deterioration becomes minimum and the pointer of the tuning meter is in its center.

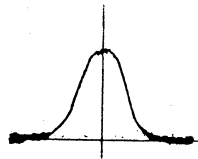


Fig. 19

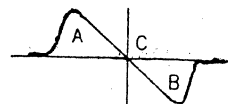


Fig. 20

FM MPX ALIGNMENT

Test conditions

Set to the switch positions on the R376 as follows.

FUNCTION FM MUTE/AUTO LOCK

MODE STEREO

VOLUME Minimum

POWER ON

Steps	Item	Measuring Instrument	Input Terminal	Output Terminal	Frequency	Adjust	Wave Form
	19kHz Free Running Frequency	FM signal generator 98MHz non-modulated 60dB at input AC voltmeter, Frequency counter	Antenna terminal	TP 4	98MHz	VR302	Adjust VR302 so that the counter will indicated 19kHz $\pm$ 30Hz.
(1)	Separation	1. FM signal generator 98MHz, 60dB at input 2. Stereo signal generator Main signal 92% modulated Pilot signal 8% modulated AC voltmeter	Antenna terminal	REC OUT(L) or SP OUT(L)	98MHz	VR303	After making the signal of Rch and Pilot, adjust VR303 so that the output wave form of Lch becomes min.
(2)							Optimize VR303 so that the leak level of the Lch signal is equal to that of the Rch signal.

AM TUNER ALIGNMENT

Test condition

Set to the switch positions on the R376 as follows.

FUNCTION AM
VOLUME Minimum
POWER ON

Steps	Item	Measuring Instrument	Input Terminal	Output Terminal	Frequency	Adjust	Wave Form
1	IF Amplifier	Sweep generator 455kHz	TC151	TP 6		T253	Gain Max. CAUTION (4)
2	(1) Covering	AM signal generator 600kHz 400Hz 30% modulated 50dB at input AC voltmeter	Ferrite antenna	REC OUT or SP OUT	600kHz	T252	Gain Max. CAUTION (5)
	(2)	AM signal generator 1400kHz 400Hz 30% modulated, 50dB at input AC voltmeter			1400kHz	TC152	
	(3)						Repeat (1) and (2)
3	(1) Tracking	AM signal generator 600kHz 400Hz 30% modulated, 50dB at input AC voltmeter	Ferrite antenna	REC OUT or SP OUT	600kHz	Ferrite antenna T251	Gain Max. CAUTION (5)
	(2)	AM signal generator 1400kHz 400Hz 30% modulated, 50dB at input AC voltmeter			1400kHz	TC151 TC153	
	(3)						Repeat (1) and (2)

CAUTION

- In item 1, set the capacitance of the variable capacitor to minimum and adjust red and blue cores of T253 so that the waveform is as shown in Fig. 15. As T253 contains a 455kHz ceramic filter, sometimes the center of the marker will not correspond to that of the waveform.
In this case, neglect the marker. After adjusting as above, increase the output level of the sweep generator and adjust T253 again so that the top of the waveform A (indicated in Fig. 16) will be flat and wide.
- In items 2 and 3, at the time of first adjustment, set input power at 74dB and adjust obtaining the minimum necessary input power (50 dB).

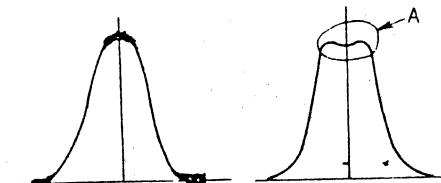


Fig. 21

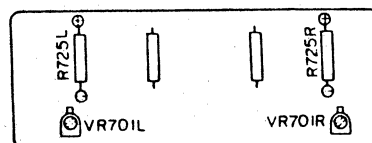
Fig. 22

AUDIO CIRCUIT ALIGNMENT

Test condition

Set to the switch positions on the R376 as follows.

FUNCTION Free
VOLUME Minimum
POWER ON



MAIN PRINTED WIRING BOARD

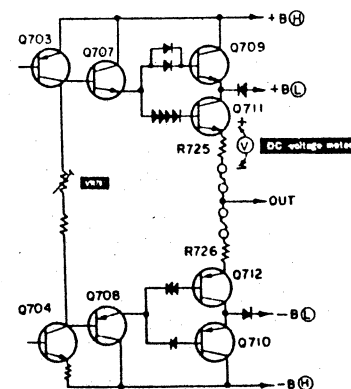


Fig. 23

Fig. 24

Perform this adjustment approx. 10 minutes after the power switch ON.

Item	Measuring Instrument	Point to be Measured	Adjust	Value Adjusted
Idle Current	DC voltmeter	R725 L,R	VR701 L,R	13.2V $\pm$ 4.4V (60 $\pm$ 20mA)

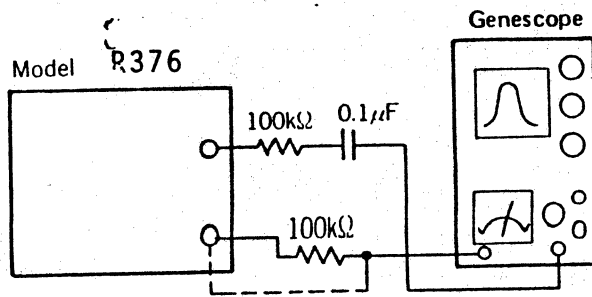


Fig. 25 FM IF Discriminator and AM IF alignments (AM and FM Step. 1)

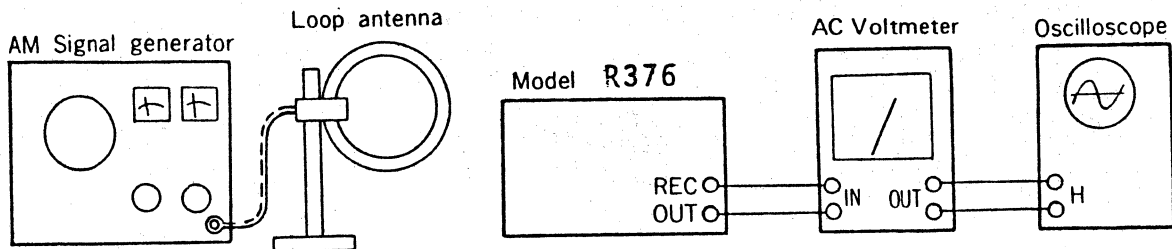


Fig. 26 AM frequency covering and tracking alignments (Step. 2 and 3)

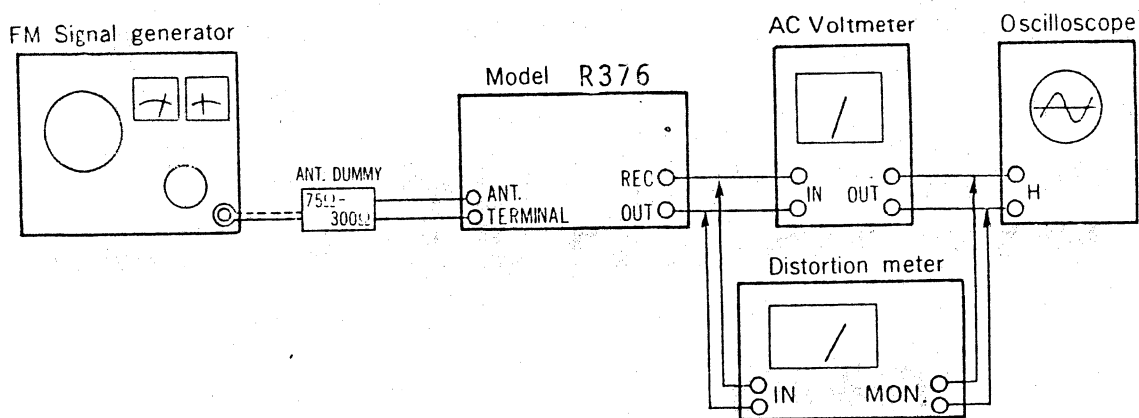


Fig. 27 FM frequency covering, tracking and other alignments (Step. 2 to 8)

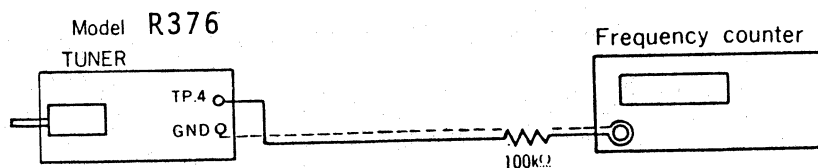


Fig. 28 FM MPX 19 kHz adjustment (Step. 1)

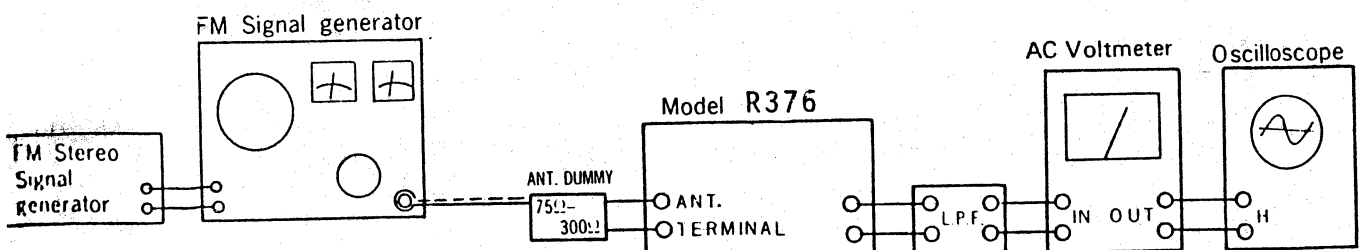
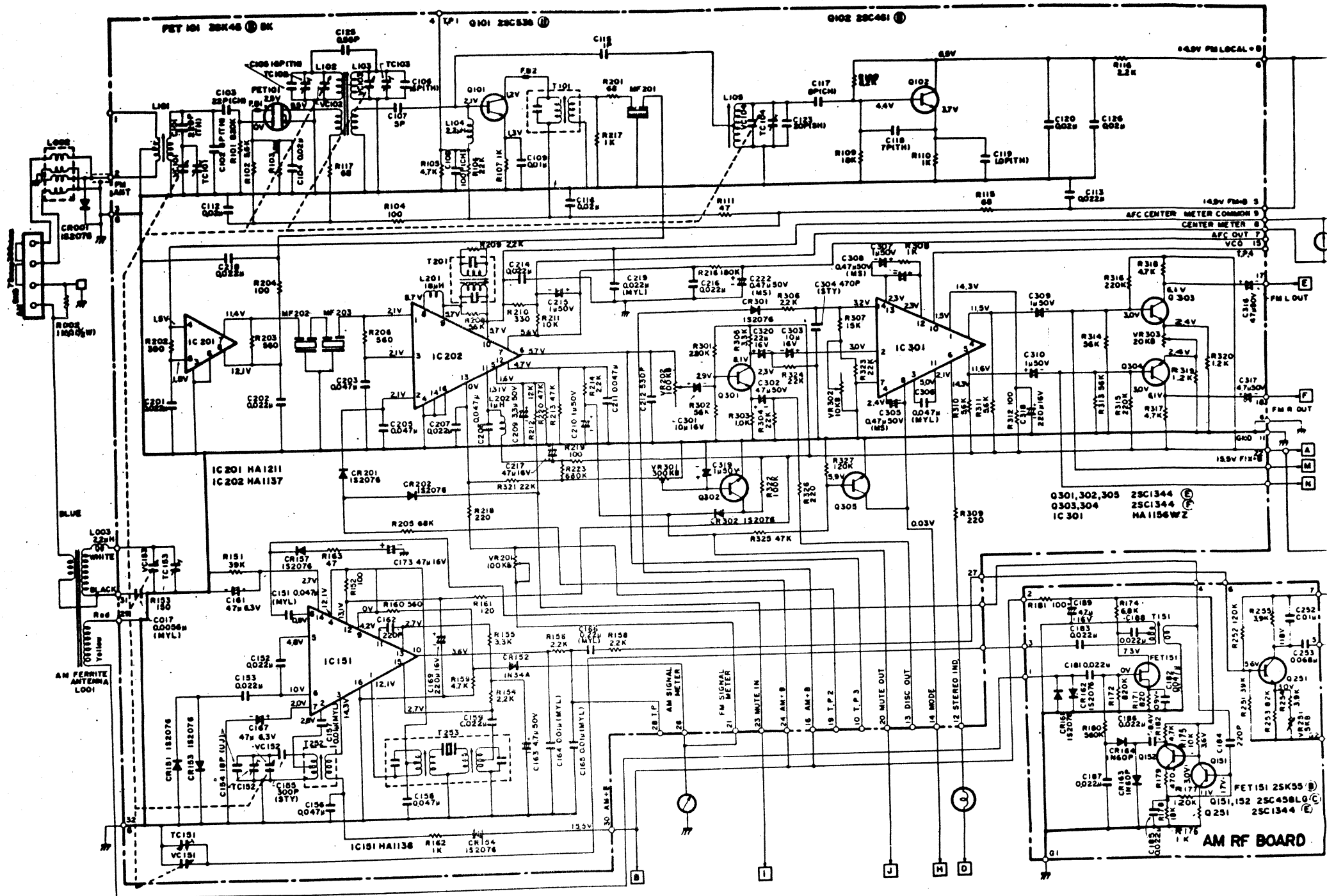


Fig. 29 FM MPX alignments (Step. 2)



R 376

